

REMARKS

The issues outstanding in the Office Action mailed August 4, 2004, are the objections to the specification and the rejections under 35 U.S.C §§112 and 103. Reconsideration of these issues, in view of the following discussion, is respectfully requested.

Specification

A sectioned entitled "Brief Description of the Drawings" has been added, as requested. The comments concerning the Abstract of the Disclosure are not fully understood. In Applicants' Preliminary Amendment, filed concurrently with the application, it was requested to cancel the Abstract and replace with the Abstract provided. See page one of the Preliminary Amendment. It is thus respectfully requested that the Abstract provided with the Preliminary Amendment be used. Further clarification is requested.

Rejections Under 35 U.S.C §112

Claims 1 - 16 have been rejected under 35 U.S.C § 112, second paragraph. Reconsideration of this rejection is respectfully requested. It is argued, at page 2 of the Office Action, that the use of reference numbers and letter-number combination renders the claims unclear. This is respectfully submitted to be untrue. The use of reference numerals in a claim, referring to elements of a drawing, is a well established practice in the art. Applicants' representative is not aware of any prohibition on the use of such designations in the claims. Indeed, such practice is specifically authorized in M.P.E.P. § 608.01(m), the third paragraph, in which it is further indicated that such use of reference characters has no effect on the scope of the claims.

In the present application, the designation of various flow streams with unique numerals renders the claims *more* clear, inasmuch as there is no ambiguity as to which flow stream is meant. Applicants therefore respectfully decline to amend the claims to remove numbers referencing the figures.

With respect to claim 8, appropriate clarifying amendments have been made. The scope of the claim is not changed, either literally or for purposes of the doctrine of equivalents, by these amendments. Similar clarifying amendments have been made to claim 15, which also do not change the scope of thereof. Reconsideration of this rejection is therefore respectfully requested.

It is noted that various clarifying amendments have also been made to the other claims present in the application, in view of considerations of U.S. practice. These amendments do not change the scope of the claims, either literally or for purposes of the doctrine of equivalents.

Rejection Under 35 U.S.C §103

Claims 1 - 16 have been rejected under 35 U.S.C §103 over Fauconet et al. WO 98/23573. It is believed that the rejection could equally been based upon the U.S. equivalent, which is referred to in the Office Action, inasmuch as U.S. Patent No. 6,281,386 has a 102(e) date of May 25, 1999. In any event, the following discussion is based on the cited WO.

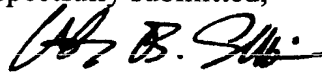
It is argued, at page 5 of the Office Action, that the (presumably only) "difference between the process taught by Fauconet and that instantly claimed is that Fauconet does not contemplate the recovery, purification and recycling of the *wash water* employed in the heat exchanger." (Emphasis added.) Applicants respectfully, albeit quite strenuously, disagree with this analysis. Fauconet is directed to a process for the purification of acrylic acid, obtained from oxidation of propylene, in which said acrylic acid is extracted by counter current washing of reaction gases with at least one heavy hydrophobic absorption solvent. See page 8, lines 25 - 34. Such extraction is carried out in a distillation column, from the bottom of which a flow of acrylic acid is extracted, and then sent to a distillation column. See page 10, lines 25 - 29. In that distillation column (C3), acrylic acid is distilled as a top product and the bottom product is passed to an additional distillation column (C4), for additional separation of impurities. See page 11, lines 5 - 24. The remainder of the discussion of the WO, from page 11 - the examples at page 16, is directed to these additional distillations, and to washing of gas flow. Thus, even assuming that such a wash is equivalent to the heat exchange in the present claims, in which gas flow of propylene, oxidation products, water, acetic acid and acrolein is intimately contacted with water in a heat exchanger, the WO not only fails to teach recycle of water, but also, importantly, fails to

disclose the production of a purified stream containing propylene *and acrolein* as presently claims. Moreover, the WO fails to disclose or suggest recycling of at least, in part, acrolein to the reaction. Unlike the WO, the presently claimed process focuses on recycle of unconverted reactants (propylene and acrolein) to the reaction stage, with necessary separation of a sufficient amount of water so as to prevent accumulation in the loop of fresh and recycled gases introduced to the reactor, so as to maximize inversion. Since the WO does not discuss recycle of acrolein, it does not suggest the advantage to be gained by recycle of water in a heat exchanger, which enables efficient recycling of unreacted products as presently claimed. Accordingly, it is submitted that the reference fails to disclose or suggest the present claims, withdrawal of the rejection of 35 U.S.C §103 is respectfully requested.

The claims of the application are submitted to be in condition for allowance. However, if the Examiner has any questions or comments, she is cordially invited to telephone the undersigned at the number below.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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